

**Abstract**

Packet processing circuitry comprises a look-up engine and a processor. The look-up engine transfers a first selector to a CAM and receives a corresponding first result from the CAM. The look-up engine retrieves a first context structure based on the first result.

- 5 The look-up engine builds a summation block using the first context structure and transfers the summation block. The processor receives and processes the summation block to control handling of the communication packet.